



# Heart Failure: Crossing the Translational Divide

January 14–18, 2018 | Keystone Resort | Keystone, Colorado | USA

## Scientific Organizers:

**Yibin Wang**, University of California, Los Angeles, USA

**Joseph A. Hill**, University of Texas Southwestern Medical Center, USA

**Carolyn Lam**, Duke-NUS Medical School, Singapore

*Heart failure is a major human disease that afflicts millions of people worldwide. Intensive research in the past decade has yielded many exciting new mechanistic insights into the pathogenesis of heart failure, but progress toward successful therapies to prevent, halt and reverse heart failure has been painfully slow. The overall goal of this Keystone Symposia conference is to focus on heart failure and highlight the scientific advances in basic discovery and early-phase therapeutic development in this fast-moving field. The symposium will provide the field with an opportunity for robust discussion about the major issues crossing the translational divide from basic discovery to therapies.*

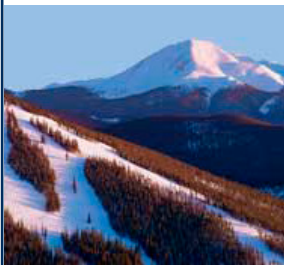
## Session Topics:

- HFrEF: Ischemic Heart Disease (I/R Injury and Cell Death)
- Inflammation (Non-Ischemic) HFrEF
- HFrEF: Hypertensive Heart Disease (Hypertrophy, Fibrosis)
- Workshop 1: Big Data and Precision Medicine for Heart Failure
- PH and RV Failure
- HFrEF and Metabolism
- Workshop 2: Pharma for HF, How NOT to Get Lost in Translation
- HFrEF: Genetics and Epigenetics
- HFpEF (Mechanisms and Therapy)
- HFrEF (Cellular and Molecular Therapy)

**Scholarship Application & Discounted Abstract Deadline: September 21, 2017**

**Abstract Deadline: October 19, 2017**

**Discounted Registration Deadline: November 20, 2017**



Note: Scholarships are available for graduate students and postdoctoral fellows and are awarded based on the abstract submitted. Submitting an abstract is an excellent opportunity to gain exposure for your work. Abstracts submitted by the abstract deadline will also be considered for short talks on the program.

Meeting Hashtag: #KShf

[www.keystonesymposia.org/18A1](http://www.keystonesymposia.org/18A1)

**KEYSTONE SYMPOSIA™**  
on Molecular and Cellular Biology  
*Accelerating Life Science Discovery*

[www.keystonesymposia.org/meetings](http://www.keystonesymposia.org/meetings) | 1.800.253.0685 | 1.970.262.1230

a 501(c)(3) nonprofit educational organization

# KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

## Heart Failure: Crossing the Translational Divide (A1)

January 14-18, 2018 • Keystone Resort • Keystone, Colorado, USA

Scientific Organizers: Yibin Wang, Joseph A. Hill and Carolyn Lam

Sponsored by Amgen Inc.

Abstract & Scholarship Deadline: September 21, 2017 / Abstract Deadline: October 19, 2017 / Discounted Registration Deadline: November 20, 2017

### SUNDAY, JANUARY 14

#### Arrival and Registration

### MONDAY, JANUARY 15

#### Welcome and Keynote Address

\***Yibin Wang**, University of California, Los Angeles, David Geffen School of Medicine, USA

\***Joseph A. Hill**, University of Texas Southwestern Medical Center, USA

**David C. Page**, Whitehead Institute for Biomedical Research, USA  
*Sex and Disease: Do Males and Females Read their Genomes Differently?*

#### HFrEF: Ischemic Heart Disease (I/R Injury and Cell Death)

\***Issei Komuro**, Tokyo University Graduate School, Japan

\***Zhao Wang**, University of Texas Southwestern Medical Center, USA

**Laura Mauri**, Brigham and Women's Hospital, USA  
*What Ischemic HFrEF Looks like Clinically and What I Wish I Had in My Toolbox*

**Richard N. Kitsis**, Albert Einstein College of Medicine, USA  
*Understanding and Therapeutically Manipulating Cell Death in the Heart*

**Junichi Sadoshima**, Rutgers New Jersey Medical School, USA  
*Autosis Mediates Myocardial Cell Death During Ischemia/Reperfusion*

**Yusuke Morita**, Kyoto University, Japan  
*Short Talk: Spatiotemporal and Integrative Analysis of the Transcriptome and Metabolome Response to Systemic Energetic Starvation with Cardiac Dysfunction*

**Dipayan Chaudhuri**, University of Utah, USA  
*Short Talk: Mitochondrial Cardiomyopathies Feature Compensatory Increases in Mitochondrial Calcium*

#### Workshop and Panel 1: Does an X or Y Make a Difference for the Heart?

\***Joseph A. Hill**, University of Texas Southwestern Medical Center, USA

*Does XX or XY Make the Heart Grow Fonder?*

**Leslie A. Leinwand**, University of Colorado Boulder, USA  
*A Woman is Not a Small Man: Sex Differences in the Heart*

**David C. Page**, Whitehead Institute for Biomedical Research, USA  
*Translate Mechanism to Practice: For Sex Differences in HF*

\***Vera Regitz-Zagrosek**, Charité - University Medicine Berlin, Germany  
*Translational Aspects of Sex Differences in Myocardial Ischemia and Hypertrophy*

**Carolyn Lam**, Duke-NUS Medical School, Singapore  
*Sex Differences in HF-Clinical Trial*

#### Inflammation (Non-Ischemic) HFrEF

\***Donald R. Menick**, Medical University of South Carolina, USA

\***Merry L. Lindsey**, University of Mississippi Medical Center, USA

**Douglas L. Mann**, Washington University School of Medicine, USA  
*What Inflammatory Cardiomyopathy Looks like Clinically and What I Wish I Had in My Toolbox*

**Peter Liu**, University of Ottawa Heart Institute, Canada  
*Immune System as Sensor/Mediator for Progression in Heart Failure – Translational Considerations*

**Georg Daniel Duerr**, University of Bonn, Germany  
*Short Talk: Post-Conditioning with CpG-Containing TLR9 Ligand 1668-thioate Attenuates Inflammatory Response and Remodeling Leading to Less Fibrosis and Better Left Ventricular Function in Murine Myocardial Infarction*

**Dian Cao**, University of Texas Southwestern Medical Center, USA  
*Short Talk: Cytosolic DNA Sensing Governs Myocardial Ischemic Injury by Promoting Macrophage Transformation*

**Shey-Shing Sheu**, Thomas Jefferson University, USA  
*Short Talk: Mitochondrial Fission Protein Drp1 Clustered at the Sarcoplasmic Reticulum-Mitochondria Junctions to Regulate Cardiac Excitation-Contraction-Energetics Coupling*

#### Poster Session 1

### TUESDAY, JANUARY 16

#### HFrEF: Hypertensive Heart Disease (Hypertrophy, Fibrosis)

\***Hina Chaudhry**, Mount Sinai School of Medicine, USA

\***Dan Tong**, University of Texas Southwestern Medical Center, USA

**Joseph A. Hill**, University of Texas Southwestern Medical Center, USA  
*What Hypertensive HFrEF Looks Like and What I Wish I Had in my Toolbox*

**Jeffery D. Molkentin**, Cincinnati Children's Hospital Medical Center, USA  
*Fibroblast Dynamics in the MI-Injured Heart*

**Mark E. Anderson**, Johns Hopkins University School of Medicine, USA

*CaMKII as a Therapeutic Target in Heart Failure and Arrhythmias*

**Timothy A. McKinsey**, University of Colorado Denver, USA  
*Epigenetic Regulation of Heart Failure*

**Toshiyuki Ko**, University of Tokyo, Japan  
*Short Talk: Single-Cell Analysis of Non-Cardiomyocytes Reveals a Critical Regulator of Cardiac Homeostasis*

**Rajan Jain**, University of Pennsylvania, School of Medicine, USA  
*Short Talk: The Role of Nuclear Architecture in Myocyte Determination and Genetic Cardiomyopathy*

#### Workshop and Panel 2: Big Data and Precision Medicine for Heart Failure

\***Thomas Vondriska**, University of California, Los Angeles, USA

**Peipei Ping**, University of California, Los Angeles, USA  
*Data Science in CV Biology and Medicine*

**Elizabeth M. McNally**, Northwestern University, USA  
*Genomic Solutions to Precision Medicine*

# KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

## Heart Failure: Crossing the Translational Divide (A1)

January 14-18, 2018 • Keystone Resort • Keystone, Colorado, USA

Scientific Organizers: Yibin Wang, Joseph A. Hill and Carolyn Lam

Sponsored by Amgen Inc.

Abstract & Scholarship Deadline: September 21, 2017 / Abstract Deadline: October 19, 2017 / Discounted Registration Deadline: November 20, 2017

**Daniel P. Kelly**, University of Pennsylvania, USA  
*Integrated Profiling Approaches to Delineating the Metabolic Origins of Heart Failure*

### PH and RV Failure

\***Kristina Lorenz**, Leibniz Institute for Analytical Sciences- ISAS, Germany

**Wai Hong Wilson Tang**, Cleveland Clinic, USA  
*What Pulmonary Hypertension and Right Heart Failure Looks like Clinically and What I Wish I Had in My Toolbox*

**Stephan Rosenkranz**, Klinik III für Innere Medizin, Germany  
*Novel Targets in Pulmonary Vascular Disease and RV Dysfunction*

**Yibin Wang**, University of California, Los Angeles, David Geffen School of Medicine, USA  
*Role of Stress-Signaling in Post-Natal RV Development and Maturation*

**Yingjie Chen**, University of Minnesota, USA  
*Short Talk: Harnessing the T Cell Function as a New Direction in Attenuating the Transition from Left Heart Failure to Right Heart Failure through Modulating Lung Inflammation*

\***Edda Spiekeroetter**, Stanford University, USA  
*Short Talk: Increasing BMPR2 Signaling with FK506 (Tacrolimus) Reduces Cardiac Fibrosis and Improves Right Ventricular Adaptation in Pulmonary Hypertension*

### Poster Session 2

#### WEDNESDAY, JANUARY 17

##### HFrEF and Metabolism

\***Chen Gao**, University of California, Los Angeles, USA

\***Gemma Figtree**, Kolling Institute, University of Sydney, Australia

**E. Dale Abel**, University of Iowa, Carver College of Medicine, USA  
*Mitochondrial Metabolism and Signaling Mechanisms in Heart Failure*

**Peipei Ping**, University of California, Los Angeles, USA  
*The O-PTM Fingerprints of Mitochondrial Proteome: Molecular Signature and Functional Phenotype*

**Daniel P. Kelly**, University of Pennsylvania, USA  
*Mitochondrial Remodeling in Heart Failure*

**Rong Tian**, University of Washington, USA  
*Metabolic Modulation of Cardiac Hypertrophy*

**Jiandong Liu**, University of North Carolina at Chapel Hill, USA  
*Short Talk: Lin28a Regulates Pathological Hypertrophic Growth through Pck2-Mediated Enhancement of Anabolic Synthesis*

**Gregory Aubert**, Northwestern University, USA  
*Short Talk: SUR2 as a Regulator of Cardiac Metabolism Plasticity*

### Workshop and Panel 3: Pharma for HF, How NOT to Get Lost in Translation

\***Christine E. Seidman**, Harvard Medical School, USA

\***Daria Mochly-Rosen**, Stanford University, USA

**Russell A. Miller**, Pfizer Inc., USA

**Anthony J. Muslin**, Sanofi Global Research & Development, USA

**Robert N. Willette**, GlaxoSmithKline, USA

**Aarif Y. Khakoo**, Amgen, USA

**Yan G. Ni**, Regeneron, USA

### HFrEF: Genetics and Epigenetics

\***Lisa Wilsbacher**, Northwestern University, USA

\***Ferhaan Ahmad**, University of Iowa, USA

**Elizabeth M. McNally**, Northwestern University, USA  
*How Genetics Informs the Care of HF*

**Christine E. Seidman**, Harvard Medical School, USA  
*Genetics of Cardiomyopathy: Insights into Cardiac Physiology and Disease*

**Thomas Thum**, Medical School Hannover, Germany  
*Noncoding RNAs and Other Therapeutic Approaches in Cardiac Remodeling*

**Manuel Rosa-Garrido**, University of California, Los Angeles, USA  
*Short Talk: Elucidation of Gene Regulation Paradigms by Integrating Chromatin Architecture, Histone Marks and DNA Methylation in Failing Hearts*

**Anant Chopra**, Boston University, USA  
*Short Talk: From Tissues to Cells: Dissecting the Mechanisms of Genetic Cardiomyopathy using in vitro Engineered Disease Models*

### Poster Session 3

#### THURSDAY, JANUARY 18

##### Keynote Address

\***Carolyn Lam**, Duke-NUS Medical School, Singapore

**Daria Mochly-Rosen**, Stanford University, USA  
*Cardiac Disease: Crossing the Translational Divide*

##### HFrEF (Mechanisms and Therapy)

\***Robert S. Danziger**, University of Illinois at Chicago, USA

**David A. Kass**, Johns Hopkins Hospital, USA  
*Dissecting Mechanisms of HFpEF - A Multiscale Approach*

**Carolyn Lam**, Duke-NUS Medical School, Singapore  
*HFpEF Exists -- We Just Don't Know What to Call It*

**Wolfgang A. Linke**, University of Munster, Germany  
*Targeting Cardiomyocyte Structure and Function in HFpEF*

**Gabriele G. Schiattarella**, University of Texas Southwestern Medical Center, USA

*Short Talk: XBP1s-FoxO1 Axis Regulates Lipid Metabolism and Cardiac Performance in Heart Failure with Preserved Ejection Fraction*

**Florin Despa**, University of Kentucky, USA

*Short Talk: Diabetic HFpEF in a Rat Model of Systemic Amylin Dyshomeostasis*

##### HFrEF (Cellular and Molecular Therapy)

\***Lior Zangi**, Icahn School of Medicine at Mount Sinai, USA

\***Lina A. Shehadeh**, University of Miami Miller School of Medicine, USA

**Roger J. Hajjar**, Mount Sinai School of Medicine, USA  
*Gene Therapy for Heart Failure & Pulmonary Hypertension*

# KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

## Heart Failure: Crossing the Translational Divide (A1)

January 14-18, 2018 • Keystone Resort • Keystone, Colorado, USA

Scientific Organizers: Yibin Wang, Joseph A. Hill and Carolyn Lam

Sponsored by Amgen Inc.

Abstract & Scholarship Deadline: September 21, 2017 / Abstract Deadline: October 19, 2017 / Discounted Registration Deadline: November 20, 2017

**Hesham A. Sadek**, University of Texas Southwestern Medical Center,  
USA

*Rethinking the Effect of Hypoxia on Cardiomyocytes*

**Joseph C. Wu**, Stanford University School of Medicine, USA

*Genomics and Stem Cells for Precision Cardiovascular Medicine*

**Erik A. Blackwood**, San Diego State University, USA

*Short Talk: Pharmacologic ATF6 Activation Reprograms Cellular  
Proteostasis to Mitigate Pathology in a Heart Disease Model*

**Carmine Gentile**, University of Sydney, Australia

*Short Talk: Cardiac Spheroid-Based Therapy for Heart Failure Patients*

### Meeting Wrap-Up: Outcomes and Future Directions (Organizers)

#### FRIDAY, JANUARY 19

#### Departure